

INSTANT SOFTWARE

Designed
for use on

TRS-80*

4K

LEVEL II

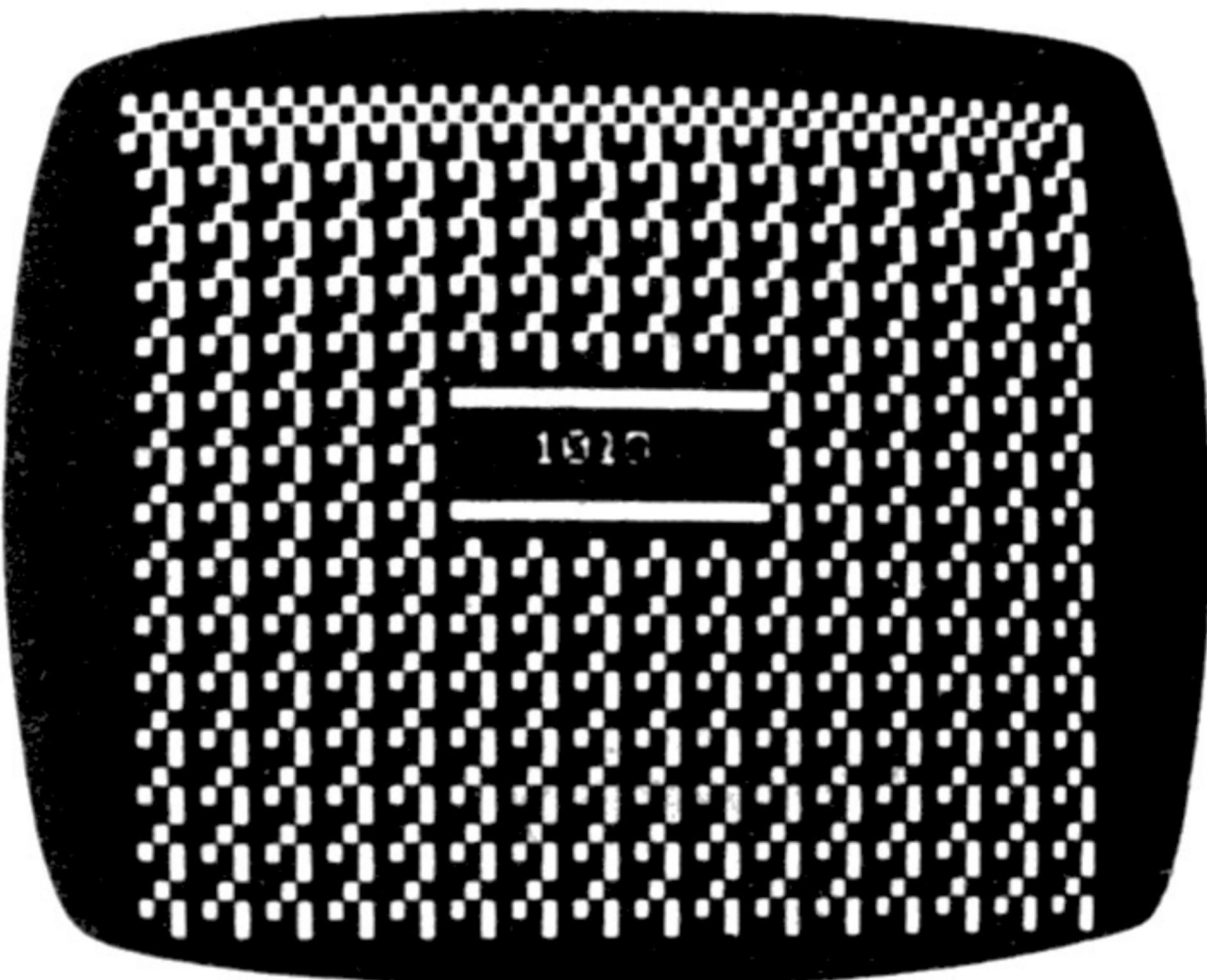
16K

LEVEL II

Demo III

- Race 1 ● Target UFO ● Life
- Phone Number Converter ● Biorhythm
- Graphic Program ● Race 2
- Horse Race ● Drawing Board ● 24 Hour Clock

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Peterborough, NH 03458 USA

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DEMO III

Demo III is the big one. This package is Instant Software's biggest value. You get more programs on one cassette than ever before. The programs included are:

Race 1 — Careen around the track in your race car as you try to beat the clock.

Target UFO — Destroy all the invading UFOs and you'll rack up a big score.

Life — This simulation of the life cycle of a colony of bacteria lets you experiment with population density factors.

Phone Number Converter — Change those hard-to-remember 7-digit phone numbers into easily remembered words.

Biorhythm — You or your friends can now see your biorhythm curves whenever you want.

Graphics Program — This program will really show you what the TRS-80 graphics display can do.

. . . continued on inside back cover

DISCLAIMER

Nothing in this world is completely perfect, including this program. I say this despite the yeoman efforts of the programmer who originally wrote and debugged it and the people in the Instant Software lab who worked far into the New Hampshire nights, all toward providing you with the best possible program.

Please enjoy it. If you come up with any improvements, you should let me know so I can pass along your ideas to other users.

Please note that there is no warranty expressed or implied that this program is going to do anything other than load and work. We don't guarantee that you will enjoy the game programs, that you will make or save money with business programs, or learn anything from educational programs. We don't guarantee that you will lose weight with a dieting program or avoid disasters with a biorhythm program. But if any program causes suffering (other than acute aggravation) or misfortune, we want to hear about it by mail, not through your lawyer. You are entirely on your own in using the programs.

If you run into problems while using a program, you can communicate with us . . . preferably by mail and we'll try to help out. If a problem turns out to be commonplace, we'll put the update information in **MICROCOMPUTING**. You are supposed to read **MICROCOMPUTING** anyway.

Wayne Green

TRS-80 LOADING

Unless otherwise indicated on the labels, Level I will be on one side of the cassette and Level II on the other. Make sure that your system is on, the recorder is plugged in, and the tape is rewound. Punch out the tabs on the cassette to prevent accidental erasure. Now insert the tape into your recorder and press PLAY.

Type NEW and press ENTER (E). Check the available memory by typing P.M.(E) for Level I or ?MEM(E) for Level II. Now press PLAY on the recorder and type CLOAD(E). In about ten seconds two asterisks should appear on your screen, with the right-hand one blinking. If it doesn't blink, you're not loading.

The TRS-80 is very sensitive to audio levels. If the program doesn't load, rewind the tape, adjust the volume level, and repeat the loading sequence above.

After each load, run a memory check and note how much memory the program uses.

Should you be unable to load, check the cassette with another system. If it's still no go, return it to:

Instant Software Miseries
Peterborough NH 03458

We'll check to see whether it was the cassette or your system that was awry and get you a replacement.

ACCIDENTAL ERASING .

Until you've tried it, you won't believe how easy it is to screw up a data cassette. For instance, the magnet in any loudspeaker can do a fantastic job of removing part of the data . . . and you'll find loudspeakers in portable radios, cassette recorders, TV sets, etc. Power supplies will do even better. No one can even estimate how many tapes have been wiped out by these little TRS-80 power units . . . or by putting cassettes on top of the monitor, where its electromagnetic field can weave its subtle work.

Do not treat your cassettes casually. Give them extra care and attention. Keep them away from anything electrical, magnetic or dusty at all times.

Well, accidents can happen, even to the most careful of us. One of your kids can try out a data cassette and push the record button . . . etc. You should ward this off by punching out the tabs on the back of the cassette to prevent recording. If things do go awry, we'll redo your cassette for you for a nominal service charge of \$2. Just send back the original cassette, a note as to what went wrong (we like to keep statistics) and the \$2. We'll fix it up for you and get it back as quickly as we can. Try not to get worried if it takes three weeks . . . one week each way for the post office (when they are up to that rigorous a schedule) and a week for us to horse around.

COPYRIGHT

This program is protected by copyright. This means that it is illegal to make a copy of the tape or of a listing of the program. Any copy. We feel strongly enough about this to offer a \$10,000 reward for the conviction of anyone copying this program. This means that when your life-long friend and bosom buddy asks you to run off a copy for him, you have, at that moment, to decide whether he wants the program or the ten thou. If you do decide to make the copy, you'd better be very nice to said friend from then on.

Better if someone is insistent, is to give them the money to buy a cassette of their own. It could be cheaper in the long run.

Why the fuss? We want to make sure that programmers are paid for their programs and paid well. The more money we can pay in royalties, the better programs you'll have.

IMPROVEMENTS

There are very few programs which cannot be improved. If you work out some improvements to this program, it could be worth your while to send them in for possible use in an updated version of the program. Those who contribute to an updated program will share in the royalties which result. Instant Software Inc., Peterborough NH 03458.

DEMO III

Demo III is the big one. This package is so jam-packed with exciting programs that we couldn't use our usual procedure of double dumping each program. The programs included are:

- Race 1 (Basic)
- Target UFO
- Life
- Phone Number Converter
- Biorhythm
- Graphics Program
- Race 2 (Advanced)
- Horse Race
- Drawing Board
- 24 Hour Clock

The program cassette has 4K programs on one side and the 16K programs on the other side.

RACE 1

Race 1 is a computer simulation of a road race. It's you against the clock as you steer your car around the twists and turns of the course.

When you turn on your computer it will display MEMORY SIZE?_. You must type in the number 20477. This will reserve a small amount of memory for the computer's use in running the program.

You can next CLOAD the program using the standard Level II routine.

When you RUN the program, the computer will ask if there is a low score stored in memory. If this is the first time you have run the program or if you have turned off the computer since you last played the game, type NO and press ENTER.

The object of the game is to steer your car around the track without crashing into any of the walls. The faster you move around the track, the better your time will be.

If you do crash, your car will be reset at the starting line, but the timer will not be reset. It will continue running until you successfully complete the course.

You use the arrow keys to steer your car. Push a key once and the car will continue to move in that direction until you push another key. (↑ is up, ↓ is down, → is right, and ← is left).

The car's speed is controlled by pushing the F (for fast) or S (for slow) keys. Speed can be changed at any time during the game.

When you have finished a circuit of the race course, you will be told your time and previous low time. You and your friends can compete to see who is the best driver.

The computer will then ask if you want to play again. Answer by typing in YES or NO.

TARGET UFO

In this game you are an antiaircraft gunner. You must destroy the ten UFOs which will appear on your screen.

Imagine your screen divided in half by a line stretching from the lower left corner to the upper right corner. The UFOs will appear in the upper left-hand section of the screen.

Your gun can fire at angles from 90 degrees (straight up) to 30 degrees (toward the upper right corner). To destroy the UFOs, you must aim your gun at the correct angle to intersect the UFO's position on the screen. Just enter the firing angle and the gun will fire automatically.

If you destroy the UFO, you get 10 points. If you only damage the UFO by hitting the outer section, you get 5 points. A miss scores no points. A perfect score would be 100.

At the end of the game, the computer will give you your score and comment on how well you've done. If you want to play again, type Y.

LIFE

The game of Life is a computer simulation of the life cycle of a colony of bacteria. Individual cells are born, mature, and die, depending on the number and placement of neighboring cells.

The object of this game is to see if you can start a colony of bacteria that will be stable and not die out after a short period of time.

The program will show you what new, mature, and dead cells look like. Each cell has eight possible neighbors. Each cell with two or three neighbors will survive to mature. With four or more neighbors, a cell will die from overpopulation. If a cell has one or no neighbors, it will die from isolation. Every cell with three neighbors will spawn a new cell.

At the start of the program, the computer will ask if you want the cells placed at random or if you want to place them yourself (type 1 for random or 2 for manual placement).

If you choose to place the cells yourself, a cell will appear at the top of the screen. You may move the cell Up, Down, Right, or Left by pressing the correct letter key for the desired direction.

If you want a cell at a current position, press P for place. You'll have a mature cell at that position. If you placed a cell by mistake, press W for wipe to remove it. After all cells have been placed, press E for end. The game will start then.

PHONE NUMBER CONVERTER

Now you can change those hard-to-remember 7-digit phone numbers into easily remembered words. Most phone numbers have over two thousand different alphabetic equivalents. All you have to do is remember a single word or two that corresponds to the numbers on the dial or pad.

The program starts by asking for the phone number. After entering the number, you'll have two options. You can choose to see a short list of words shown on the screen for a specified number of seconds or you can see a continuous list of words that will scroll on the screen.

The second option is whether you want to see the words in large or small print. With the small print, you'll see a trinary representation of the program's progress.

For faster operation, divide the number into two words. Then, just enter the remaining numbers – with either 1s or 0s substituting for the missing numbers.

When you see a word that looks good or memorable, press BREAK. This will stop the program and let you copy down the word or words.

BIORHYTHM

Here's a handy program that will compute your or your friend's biorhythms. It will give you a video display of your physical, intellectual, and emotional cycles.

The program starts by asking you to enter your name, birthdate (e.g., 12, 18, 1950), and the first month to start displaying your biorhythm (e.g., 6, 1979).

The program will display three months of your cycle. The P designates your physical aspect, the I the intellectual, and S the emotional cycle.

The Cs are critical days where your cycle changes from positive (+s) to negative (-s). Days shown with a C are when you should be careful about the specific aspect of your life that is changing. If you have a day that is critical for all three aspects, you should take extreme care.

To see more of your biorhythm, type 1. To start a new biorhythm display, type 2. To stop the program, type 3.

GRAPHICS PROGRAM

This program is strictly for fun. The Graphics Program will show you what can be done with the video display of the TRS-80. You'll see fine examples of the programmer's art and be able to examine the program in detail via the listings to see how it was done.

There are no user commands — just sit back and enjoy.

RACE 2

Race 2 is the more advanced version of Race 1. Many of the commands are similar, but because of the increased complexity there are some differences.

When you first turn on the computer, it will display MEMORY SIZE?_. You must type in the number 32757. This will reserve a small amount of memory for the computer's use in running the program.

After CLOADing the program, type RUN. The computer will print a summary of the playing instructions. When you've finished reading the instructions press ENTER.

The computer will ask which race track you would like to try. Track number 1 is the easiest and widest, while track 5 is the narrowest and most difficult. Type in your chosen number and press ENTER.

The race will start as soon as you choose the track. The clock will start immediately and not stop until you've crossed the finish line.

The speed of your car is controlled by pressing F or 2 for fast, or S or 1 for slow.

Your car's direction is controlled by the arrow keys. Push any arrow key and the car will move in that direction until another key is pushed (↑ is up, ↓ is down, → is right, and ← is left).

At the end of the race, the computer will give you your time and show you the previous low time.

If you crash during a race, by hitting any of the walls, your car will be sent back to the starting line. The clock will continue to run.

At the end of a race, the computer will ask if you want to play again. Type Y for yes and press ENTER.

24 HOUR CLOCK

This program is simplicity itself to use. Merely enter the correct time and your TRS-80 will be transformed into an accurate digital clock.

To increase the accuracy of the clock, you can keep track of whether your computer gains or loses time. Then merely change the value of TM in line 50 (increase TM to slow it down, decrease it to speed it up).

HORSE RACE

This Horse Race program is ahead of the pack. You have not only an exciting horse race for up to nine bettors, but also entertaining graphics.

The program starts by telling you that the racetrack is Louisiana Downs, near Bossier City, Louisiana. You'll see a map of how to get there. Just enter the speed for your car (25-60 mph) and drive to the track. When you get there, you can have a mug of your favorite "beverage."

The program has these limits:

1. There are nine races with seven horses each.
2. There is a maximum of nine bettors for each race.
3. Each bettor can make only one bet per race.
4. The same names cannot be used; you'll only confuse the computer.
5. Names are limited to seven letters.

The program will first display the numbers and names for the seven horses, the jockeys' names, and the odds for each horse.

Before the race can start, you must enter how many races you want to bet on, the number of bettors, and each bettor's name.

After that initial information has been entered, the computer will prompt each bettor by name for the amount of his bet, which horse he wants to bet on, and whether he wants a win, place, or show.

The computer will display all winnings or losses for all bettors.

In the event of a close finish for the race, the computer will pause to examine the photo finish picture and then announce the winner of the race.

Note: The big winner buys dinner.

DRAWING BOARD

The Drawing Board program lets you draw pictures or print messages on the screen of your TRS-80, store up to four displays in memory, and record or input displays from cassette tape.

After CLOADing the program, you'll see a set of operating instructions. Read these carefully, as the user commands are quite extensive.

The computer will next display:

Do you want to:

1. Redraw display from memory?
2. Draw another display?
3. Recall display from tape into memory 1?
4. Record memory 1 on tape?
5. Review instructions?

Enter the number of the function^{*} you want.

The user functions are:

Y moves line straight up

N moves line straight down

G moves line to left

J moves line to right

T moves line toward upper left corner

U moves line toward upper right corner

B moves line toward lower left corner

M moves line toward lower right corner

S slows line speed

F increases line speed

↑ stores display in memory

/ erases display without storing

- converts mode to erase or back to drawing

Space bar or any other unused key stops the
line

P for print mode (any key pressed will
appear in the drawing)

@ for return from print mode

If you want to store a drawing in memory,
you must specify which memory location (1-4).
Only drawings in memory 1 will be recorded on
tape.

Before you start a drawing, the computer will ask if you want to work with a white screen (YES or NO).

Follow the on-screen instructions to input or record a drawing on tape.

CASSETTE RECORDER MAINTENANCE

Often, when you have trouble loading a program, it's not the fault of the tape or your computer system. It may be a problem with your cassette recorder. The staff at Instant Software use a large variety of cassette recorders eight hours a day, five days a week. To insure that the recorders will keep up with the demands of our work load, they are subjected to a rigorous maintenance routine.

As you run a tape in any recorder, a particle of oxide may flake off the tape, or a bit of dust may settle from the air. These bits of debris may adhere to the play/record head, causing variations in the volume level and degrading the performance of your recorder.

To keep your recorder in top condition, clean the recorder heads after every 15-20 loads or saves. Use denatured alcohol (available at any drugstore) and cotton-tipped swabs. Lightly dampen a swab and gently stroke the erase head, the record/play head, and the pinch roller. This will remove accumulated tape oxide and dust. You can also use a soft brush or vacuum cleaner to remove dust from the tape compartment.

Every time you press the record or play button, you put a small amount of stress on the play/record head. Eventually the head will be pushed out of alignment. This is one of the reasons why a program recorded when you first got your system will not load several months later or won't load on another system.

The cure is to have your recorder aligned by a qualified technician, or if you have the know-how, to align it yourself.

The technicians at Instant Software recommend using an industrial standard alignment tape (they use a Panasonic tape, part No. QZZCFM). This tape allows them to test for playback frequency response, playback level, and the head azimuth adjustment. The most critical aspect, especially for PETs, is the azimuth adjustment.

To run a test on your recorder, connect an oscilloscope to the earphone jack, insert the alignment tape into the recorder, push the play button, and adjust the head for the best waveform on the oscilloscope. If you lack test instruments, adjust the head for the loudest sound and best high frequency response without changing the recorder's volume setting.

Remember, your recorder is a critical link in your computer system. For the best performance, give it the best care.

• SPACE TREK II

Protect the quadrant from the invading Klingon warships. The Enterprise is equipped with phasers, photon torpedoes, impulse power, and warp drive. It's you alone and your TRS-80 Level I 4K, Level II 16K against the enemy.

Order No. 0002R \$7.95

• BOWLING

Let your TRS-80 set up the pins and keep score. One player can pick up spares and get strikes. For the TRS-80 Level I 4K, Level II 16K.

Order No. 0033R \$7.95

• HAM PACKAGE I

This versatile package lets you solve many of the commonly encountered problems in electronics design. With your Level I 4K or Level II 16K TRS-80, you have a choice of:

Basic Electronics with Voltage Divider: Solve problems involving Ohm's law, voltage dividers, and RC time constants.

Dipole and Yagi Antennas: Design antennas easily, without tedious calculations.

This is the perfect package for any ham or technician.

Order No. 0007R \$7.95

● ELECTRONICS I

This package will not only calculate the component values for you, but will also draw a schematic diagram, too. You'll need a TRS-80 Level I 4K, Level II 16K to use:

Tuned Circuits and Coil Winding: Design tuned circuits without resorting to cumbersome tables and calculations.

555 Timer Circuits: Quickly design astable or monostable timing circuits using this popular IC.

LM 381 Preamp Design: Design IC preamps with this low-noise integrated circuit.

This package will reduce your designing time and let you build those circuits fast.

Order No. 0008R \$7.95

- **GOLF
CROSSOUT**

Have fun with these exciting one-player games.
Included are:

Golf: You won't need a mashie or putter -- or a caddie, for that matter, to enjoy a challenging 18 holes.

Crossout: Remove all but the center peg in this puzzle and your neighbors will call you a genius.

You'll need a TRS-80 Level I 4K, Level II 16K.

Order No. 0009R \$7.95

• BUSINESS PACKAGE I

Keep the books for a small business with your TRS-80 Level I 4K. The six programs included are:

General Information: The instructions for using the package.

Fixed Asset Control: This will give you a list of your fixed assets and term depreciation.

Detail Input: This program lets you create and record your general ledger on tape for fast access.

Month and Year to Date Merge: This program will take your monthly ledger data and give you a year to date ledger.

Profit and Loss: With this program you can quickly get trial balance and profit and loss statements.

Year End Balance: This program will combine all your data from the profit and loss statements into a year end balance sheet.

With this package, you can make your TRS-80 a working partner.

Order No. 0013R \$29.95

● PERSONAL FINANCE I

Let your TRS-80 handle all the tedious details the next time you figure your finances:

Personal Finance I: With this program you can control your incoming and outgoing expenses.

Checkbook: Your TRS-80 can balance your checkbook and keep a detailed list of expenses for tax time.

This handy financial control package for the home requires only a TRS-80 Level I 4K.

Order No. 0027R \$7.95

- **RAMROM PATROL**
TIE FIGHTER
KLINGON CAPTURE

Buck Rogers never had it so good. Engage in extraterrestrial warfare with:

Ramrom Patrol: Destroy the Ramrom ships before they capture you.

Tie Fighter: Destroy the enemy Tie fighters and become a hero of the rebellion.

Klingon Capture: You must capture the Klingon ship intact.

It's you and your TRS-80 Level II 16K battling across the galaxy.

Order No. 0028R \$7.95

- **AIR FLIGHT SIMULATION**

Turn your TRS-80 into an airplane. You can practice takeoffs and landings with the benefit of full instrumentation. This one-player simulation requires a TRS-80 Level I 4K, Level II 16K.

Order No. 0017R \$7.95

PROGRAMS FOR YOUR TRS-80

Look for these fine programs at a computer store near you and save time and money. Or, if you'd prefer, you can use the handy order form on the next page. Or call toll-free 1-800-258-5473, and have your credit card ready.

- SPACE TREK II**
Order no. 0002R. \$ 7.95
- HAM PACKAGE I**
Order no. 0007R. \$ 7.95
- ELECTRONICS I**
Order no. 0008R. \$ 7.95
- GOLF/CROSS-OUT**
Order no. 0009R. \$ 7.95
- BUSINESS PACKAGE I**
Order no. 0013R. \$29.95
- AIR FLIGHT SIMULATION**
Order no. 0017R. \$ 7.95
- PERSONAL FINANCE I**
Order no. 0027R. \$ 7.95
- RAMROM PATROL**
Order no. 0028R. \$ 7.95
- BOWLING**
Order no. 0033R. \$ 7.95

- One-Year Subscription to Kilobaud MICROCOMPUTING (\$18)
 One-Year Subscription to 80-MICROCOMPUTING (\$15)
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Card No. _____ Exp. date _____

Signature _____

Name _____

Address _____

City _____ State _____ Zip _____

Also filled out is my program order blank. Enclosed is \$_____ for the
programs marked on reverse side plus \$1.00 handling fee.

MAIL TO: MICROCOMPUTING, PETERBOROUGH NH 03458

Race 2 — This is our racing game simulation for more experienced drivers, with a choice of five different tracks.

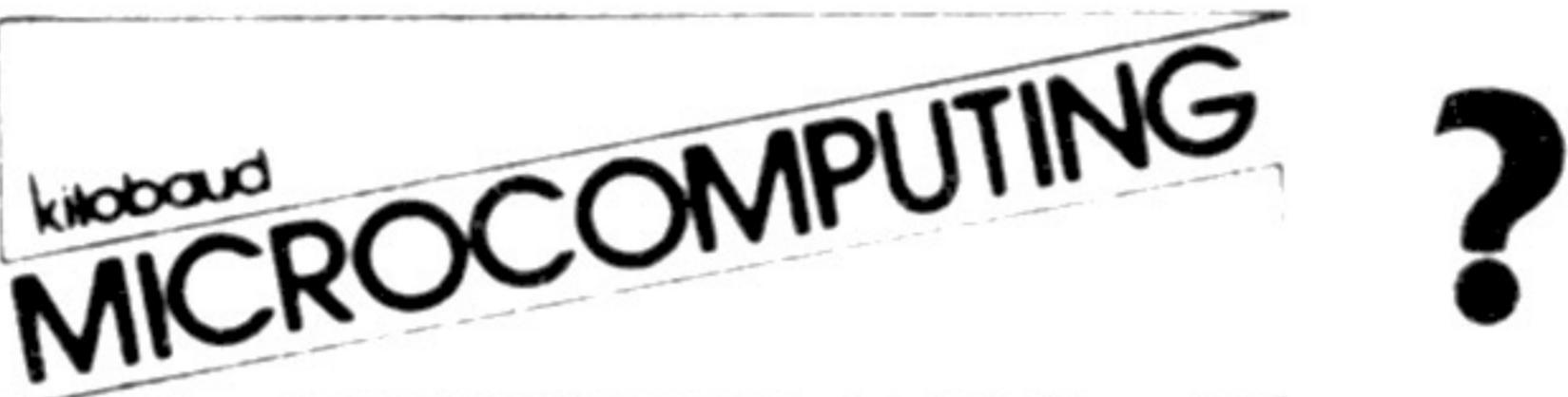
Horse Race — Up to nine players can bet and enjoy our most entertaining horse race program.

Drawing Board — Draw pictures or messages and store them in memory or on cassette tape with this easy-to-use program.

24 Hour Clock — Transform your computer into an accurate digital clock.

Enjoy one of the best values in software with the Demo III package.

READING



Kilobaud MICROCOMPUTING is designed to help the newcomer to computing to understand computers, while still being interesting to the experts. We try to avoid the use of computerese as much as possible. You'll also find a wealth of software in Kilobaud MICROCOMPUTING . . . and more articles every month than any other magazine.

The crew putting out Kilobaud MICROCOMPUTING are the ones who originated BYTE and are the leaders in the field. Only Kilobaud MICROCOMPUTING has a complete microcomputer laboratory for checking both hardware and software.

Kilobaud MICROCOMPUTING is \$2.50 per copy, but is only \$18 for a one year subscription. Back issues are \$3, except for a few rare ones which are \$10. To subscribe just send your name and address to Kilobaud MICROCOMPUTING, Subscription Services Dept. ISI, P.O. Box 997, Farmingdale NY 11737. We'll start with the next published issue and send a bill for the subscription. If you are not delighted with the first issue, just return the bill and we'll be disappointed to lose you. Readers of Kilobaud are generally very enthusiastic and read it from cover to cover. You can also subscribe by calling (during working hours) 800-258-5473.